

## ABSTRACT

The present invention provides novel nucleic acid labeling techniques that generate nucleic acid probes with specific activities at least ten fold higher than the levels obtained  
5 using standard labeling methods. Specifically, the methods of the invention provides methods of producing nucleic acid probes that each comprises multiple labeled nucleotides. The methods can be used to generate RNA, DNA or hybrid probes. The invention also provides reaction mixtures and kits for the practice of the methods of the invention and compositions comprising the probes generated according to the methods of the invention.

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